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THE SEARCH FOR HEALTH

A Report from
The National Institutes of Health
Bethesda, Maryland

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Age-Related Macular Degeneration

The eyesight of millions of otherwise healthy older Americans is affected to some degree by an eye disease called age-related macular degenertion or AMD. At one time we called this disease "senile" macular degeneration, meaning "old", to refer to the fact that the changes this eye disease causes are age related.

AMD usually does not develop until a person is 65 or older, although a few people may be affected by the disease while still in their forties or fifties.

Among those people who develop signs and symptoms of AMD, most retain close to normal vision. They have "dry" AMD, a form of the disease that develops very slowly from age-related changes that harm the eye's macula—the tiny, central portion of the light-sensing retina in back of the eye.

The way AMD affects the eye is by breaking down cells in the macula. When this kind of damage occurs, small yellowish deposits called drusen can develop beneath the macula. These changes typically cause a dimming or distortion of vision which people notice when they try to read. In time, these changes may cause blurred vision and difficulty in doing detail work, or driving a car.

Generally, if one eye has dry AMD, the other eye will also have some signs of the condition. Thus the person with dry AMD may eventually have visual problems in both eyes. However, the dry form of AMD rarely causes total loss of reading vision.

There is a much greater threat of visual loss if the dry form of AMD gives way to the "wet" or neovascular form of the disease.

This condition arises in a small percentage of people with AMD. In it, new blood vessels grow beneath the macula. These abnormal vessels leak fluid and blood, causing the light-sensitive cells near them to sicken and die. This process generally produces marked disturbance of vision in the affected eye: Straight lines look wavy, and later there may be blank spots in the field of vision.

If the leakage and bleeding from new vessels continues, much of the nerve tissue in the macula may be killed or injured within a period of a few weeks or months. Such damage cannot be repaired, because the nerve cells of the macula do not grow back once they have been destroyed.

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For people whose AMD deteriorates into the wet form, there is a sight-saving treatment developed through research. This treatment is called laser photocoagulation. In it, powerful light rays from a laser are directed into the eye and focused at a tiny spot on the macula. The purpose of the laser treatment is to preserve vision by destroying abnormal blood vessels.

A few years ago, a nationwide clinical study supported by the National Eye Institute (NEI) found that laser treatment can reduce the risk of severe vision loss by more than half in people with wet AMD. However, the treatment is best applied soon after the new blood vessels develop, before they have reached and damaged the fovea—the central part of the macula.

Because the laser cannot restore vision already lost from wet AMD, an eye whose macula has been badly damaged by this disease would not benefit from laser treatment. That is why it is so important for AMD, especially wet AMD, to be detected early enough to initiate prompt treatment.

Anyone who is middle aged or older should visit an eye care specialist regularly to be checked for early signs of AMD and other eye diseases that are linked to aging. Drusen and macular changes typical of dry AMD cannot be seen by the person who has them, but are visible to an eye care specialist examining the eye.

In addition to professional eye exams, a quick test should be done daily at home by covering each eye in turn and looking at a straight line such as the edge of a door. If the line looks bent or wavy when viewed with either eye, an immediate examination should be scheduled with an eye care specialist.

For a free brochure on AMD, write the National Eye Institute (OSR), Building 31, Room 6A32, NIH, Bethesda, Maryland 20892.